

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Advanced Television Systems)
and Their Impact Upon the)
Existing Television Broadcast)
Service)

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MM Docket No. 87-268

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COMMENTS OF GENERAL INSTRUMENT CORPORATION

General Instrument Corporation ("GI") submits these comments in response to the Fourth Further Notice of Proposed Rulemaking and Third Notice of Inquiry, FCC 95-315, released August 9, 1995 ("NPRM").

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Summary of Position

As the Commission approaches the culmination of what will have been a nine year process for development and adoption of a new broadcast standard, we believe that the policy choices it pursues should be governed by the public interest in maintaining a viable, free, over-the-air broadcast system as part of the national communications infrastructure. The public interest in that broadcast system provides guidance for decisions about key issues in this proceeding, such as: 1) What should constitute "advanced television;" 2) whether and under what conditions valuable public spectrum should be made available for its use; 3) the rules and policies which should govern a transition from today's current NTSC-based system to what all agree will be an all-digital system; 4) the amount of spectrum which should be made available for the new system; 5) the restrictions which should be placed on its use, including those necessary to establish a predominant role for high-definition television ("HDTV"); 6) simulcasting requirements during the transition period; and 7) recapture of spectrum for public use, including auctions. GI addresses each of these issues in the comments below.

General Instrument Corporation's Interest

GI played a defining and historic role in this proceeding when, in June, 1990, it announced that it would submit an all-digital HDTV transmission system for consideration as the Commission's ATV broadcast standard. Until then, an all-digital system providing full motion video had been viewed as unlikely before the year 2000, or even later, and no proponent had proposed an all-digital system. Subsequently, four all-digital systems were tested under the process established by the FCC's Advisory Committee on Advanced Television Services ("ACATS"). When the ACATS Special Panel failed to recommend the selection of any system, GI joined with other proponents to create the *digital* HDTV Grand Alliance whose goal was to develop a system combining the best features and

characteristics of all those tested. It is that system which, it is expected, will be the basis of the standard proposed to the Commission later this year by ACATS.

GI has already applied its digital compression and transmission technologies to other transmission media. More than 425 satellite channels around the world are currently utilizing DigiCipher® all-digital compression and transmission systems. DigiCable™ compression products and equipment for cable television systems are in field test this year and will be deployed in 1996. As the pioneer and one of the world's leading suppliers of digital compression and transmission technologies and equipment, GI has a major interest in all matters relating to the application of those technologies in all transmission media.

Many of the issues raised in this proceeding are an outgrowth of the capabilities and characteristics of all-digital technology, which provides a flexibility not possible with current analog technologies. That flexibility itself raises questions about the use to which valuable spectrum will be put.

Spectrum Issues

Broadcasters have a special status within our national telecommunications infrastructure. That status rests upon the maintenance of a system of free, over-the-air broadcast television. It is in the public interest to maintain that system which will depend, at least in significant part, on the ability of broadcasters to stay abreast of the technology used by other transmission media.

We urge the Commission to keep in mind, therefore, that the context in which the ATV standard is being established is one which must take into account the efficacy of the

standard and the use to which the new technologies will be put in light of the needs of broadcasters in the next century. The relevant time frame is not 1996 or 1997 and what might appear adequate at that time. The standard and use of these digital technologies must be technically viable at the time in which they become economically important, probably 2003 or later. The broadcasters' current NTSC standard will not be competitive 20 years from now, or even ten years from now. Satellite services and cable TV systems are likely to begin offering HDTV programming services in the next few years. Computers have already exceeded the resolution capabilities of broadcast media. For either the Commission or broadcasters to embrace a solution which either perpetuates NTSC or merely utilizes the new technologies to maintain NTSC equivalence will be to doom free, over-the-air broadcasting to a permanent, second-rate status.

Because of the public interest in the maintenance of free, over-the-air broadcasting, we support the assignment of an additional 6 MHz channel to each current broadcaster. Given the tradeoffs between coverage area, picture quality and equipment cost, a 6 MHz channel bandwidth is required for broadcast ATV,¹ provided that the predominant use of the channel is for delivery of HDTV programming. If broadcasters are to stay competitive with other video delivery media, they must have the technical ability to deliver HDTV.

Such assignment is not justified, however, except to the extent that it is used in support of the continued maintenance of a system of free, over-the-air television. If the predominant use of the channel were a service of lower picture quality or a non-video service, then a smaller channel bandwidth would be the most that would be appropriate. Thus, we do not believe that SDTV or auxiliary non-video services justifies assigning a full

¹ NPRM, para. 21

6 MHz to each broadcaster and the Commission would need to revisit the ATV channel assignments.

Definition of ATV Service

For this reason, GI does not believe that full time use of the channel for multiple SDTV services by a single broadcaster should qualify as ATV.² Rather, the predominant use of the channel should be for HDTV. Over time, we believe that the availability of HDTV programming, the deployment of HDTV receivers, and other marketplace factors will assure that broadcast of HDTV programming will become the predominant, if not the exclusive, use of these ATV channels.

However, during the transition³ to that state, there is a risk of consumer confusion that could slow the deployment of HDTV receivers and slow the recovery of NTSC channels. Exclusive use of the ATV channel for SDTV programming could confuse consumers and induce them to buy less expensive standard resolution digital TV receivers rather than digital HDTV receivers. This could create a need for a two-step transition, from analog to digital SDTV, and then to digital HDTV. Such a scenario would disserve the public. Consumers must clearly understand that there is one transition, and it is a transition to HDTV. Consequently, we believe that some minimum amount of HDTV programming should be required of broadcasters on ATV channels, so that consumers will clearly understand that HDTV is the paramount goal.

In order to establish HDTV as the predominant use of the channel, we propose that ATV channels should be required to carry at least 25 hours of HDTV programming per

² NPRM, para. 23,24

³ See, *infra*, pp. 13

week, of which at least 15 hours should be prime time programming. We believe that there will be adequate supplies of programming to support this level, because both movies and syndicated television programming are produced originally on 35 mm film, which is inherently high-resolution, and equipment exists or will exist to convert that filmed programming to HDTV.

Broadcasters should be permitted to carry ancillary services on their ATV channels. Because MPEG transport packet headers carry information about the service that is being carried in that packet, it should be easy for broadcasters to log the amount of channel capacity that is diverted from MPEG video and is applied to services other than HDTV. During times when HDTV is broadcast, the capacity that is diverted to ancillary uses should not be so large as to degrade HDTV picture or sound quality.

***Ashbacker* Issues**

In its *Ashbacker* decision, the Supreme Court held that where "two bona fide applications are mutually exclusive," fairness requires that the FCC cannot issue a license to one before holding a hearing on both.⁴

The Commission states that *Ashbacker* does not preclude limiting initial eligibility for ATV spectrum to incumbent broadcasters, even if flexible use of the spectrum is permitted.⁵ The Commission implies that since it proposes only modifications of existing licenses, no mutually exclusive applicants will exist who need to be afforded the required *Ashbacker* hearing. The Commission relies on its rulemaking authority under Section 309 of the Communications Act to set licensee eligibility standards as well as its

⁴ *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327, 333, 90 L. Ed. 108, 66 S. Ct. 148, 151 (1945)

⁵ NPRM, para. 29

authority under Section 316 of the Act to modify broadcast licenses consistent with the public interest.⁶

The Commission is mistaken. While the Commission is correct that it has great latitude with respect to eligibility criteria and license modifications, allowing existing broadcasters too much "flexible use" of the 6 MHz ATV allocation raises the *Ashbacker* problem by changing the primary service provided rather than merely modifying existing licenses.

At some level of flexible use, digital applications using the new ATV spectrum become entirely new services rather than an enhanced form of broadcasting. For example, in an unrestricted flexible use environment, a broadcaster might opt to dedicate the majority of its ATV spectrum to non-broadcast services.

Given the demand for scarce spectrum, awarding this unrestricted spectrum to existing broadcasters without entertaining competing applications for its use would violate the *Ashbacker* doctrine. Equally important, permitting the ATV spectrum to be used by broadcasters predominantly for services other than HDTV would be tantamount to a "giveaway" of this valuable public resource. The Commission can no more permit the predominant use of the ATV spectrum for non-HDTV use without triggering *Ashbacker* than it could wholly reclassify the broadcast spectrum as, say, PCS spectrum and thereafter appoint broadcasters as the sole recipients of this government-sponsored windfall. In either case, a fundamentally new service is created and *Ashbacker* requires the Commission to allow other potential applicants to make their claims for the new spectrum.

⁶ *Id.* (citing *United States v. Storer Broadcasting Co.*, 351 U.S. 192 (1956))

Nor does the precedent cited by the Commission in the NPRM or in prior orders in this proceeding avert the *Ashbacker* concern. In the past, the Commission has attempted to justify the sole eligibility of broadcasters for ATV spectrum by citing prior cases in which it restricted eligibility to particular classes or entities. For example, it has cited the telephone industry's resources and expertise as a justification to restrict eligibility for a block of cellular telephone spectrum to wireline carriers for a period of years.⁷

While such precedent may have been apt in an environment in which the sole application contemplated for the ATV channel was an HDTV feed (since broadcasters arguably have an expertise advantage in such an HDTV-focused environment which might justify such an eligibility restriction under *Ashbacker*), once the Commission acknowledges that flexible use of the ATV spectrum by broadcasters will be permitted, this precedent begins to break down. In an environment in which the predominant use of the ATV channel can be for non-HDTV uses, broadcasters have no greater claim than any other potential applicant which might use the spectrum in much more efficient and publicly beneficial ways. In short, in such a flexible use environment, restricting eligibility to broadcasters cannot square with *Ashbacker*.

Fortunately, there is a compromise approach which GI believes both satisfies *Ashbacker* and facilitates the Commission's goals in this proceeding. *Ashbacker* and its progeny do not preclude the Commission from initially assigning the ATV spectrum solely to existing broadcasters, if the Commission requires that the predominant use of this spectrum is for HDTV transmission. By implementing a predominant HDTV use

⁷ See ATV NPRM, 6 F.C.C.R. 7024, 1025 (1991) (citing *Amendment of Rules Relative to Cellular Communications Systems*, 86 F.C.C.2d 469, 483 (1981))

requirement, the Commission will be able to defend its restriction of eligibility to broadcasters, since broadcasters have the expertise to implement an enhanced, free, over-the-air broadcasting system.

GI does not oppose the flexible use of the ATV spectrum by broadcasters. To the extent that these services are truly ancillary to the predominant HDTV use, thus satisfying *Ashbacker*, GI fully endorses the right of broadcasters to use the spectrum for alternative applications. But introduction of new primary services requires new applicants to compete for new licenses. Under those circumstances, long-standing Commission policies favoring diversity and spectrum efficiency would require determination whether narrower channels should be assigned, whether new entrants should be permitted on some or all of the new channels, or whether a system of channel sharing would best serve the public interest.

As noted above, GI respectfully submits that the Commission define "predominant HDTV use" as carriage of 25 hours of HDTV programming per week, of which at least 15 hours would be prime time programming. Such a predominant use requirement not only avoids the *Ashbacker* problem, it also strikes an appropriate balance among the interests of: (1) the Commission in streamlining ATV deployment and reclaiming the existing NTSC channel; (2) the public in new enhanced free over-the-air broadcast programming; (3) those parties who throughout the nine-year ATV process have invested billions of dollars in the HDTV standards process; and (4) broadcasters in using the ATV spectrum in flexible ways to generate revenues that will offset the implementation of HDTV.

Provided that the predominant use of the ATV channels is for delivery of HDTV programming, the channels should be assigned, without undue delay and free of charge,

to existing broadcasters who will use two channels during a transitional period of time. At the conclusion of an appropriate transition period, one channel will be reclaimed by the FCC. We believe that this process will efficiently foster the evolution from analog NTSC to digital broadcasting.

Public Interest Obligations

The Commission has traditionally imposed public interest obligations on broadcasters,⁸ who use the public airwaves, and we expect that public interest obligations will continue to be appropriate for ATV broadcasters. In general, we believe that public interest obligations should continue to be attached to the use of ATV channels for free advertiser-supported broadcast services.

We have previously indicated that HDTV must be the predominant use of any channels provided to broadcasters for broadcast services. To the extent that the Commission permits the use of such channels for services other than free, over-the-air broadcasting, such as video or ancillary data subscription services, such services would not be subject to public interest requirements. However, such subscription services must be subject to explicit fees that compensate the public for such use. Such fees would place these subscription services on a level and competitive playing field with other spectrum-based subscription services such as paging, mobile radio or pay-TV. The Commission should design a methodology for establishing those fees which would establish compensatory rates reflecting an appropriate percentage of the return that could have been obtained had the channels been auctioned.

⁸ NPRM, para. 34, 35

Simulcasting

In general, we believe that simulcasting the same programming on the NTSC and ATV channels during the transition will serve the public interest.⁹ However, the rigid application of simulcast requirements could be unduly burdensome for broadcasters and could, in fact, limit development. HDTV is not only a major improvement over existing television; it is to some extent a new medium, with capabilities and characteristics far beyond current NTSC television. Thus, many commentators believe that the creative community will, through experimentation, develop and utilize new techniques to take advantage of HDTV's capabilities. Rigid and rote application of simulcast rules could deprive artists of the benefits of this new medium.¹⁰

The government has two clear interests which should be served in the crafting of simulcast requirements: 1) The rapid transition of our national information infrastructure to digital capability, of which broadcasting is an important component; and 2) the prudent but rapid recovery of valuable public radio spectrum.

Simulcasting of the same programming on NTSC and HDTV will speed the transition to HDTV and speed the recovery of NTSC channels. The best way to convince consumers to buy HDTV receivers is to display, side by side, the NTSC and HDTV pictures. Consumers will choose to buy the HDTV receivers when they see the dramatically improved picture quality. The faster that consumers make this decision, the faster the transition can be

⁹ NPRM, para. 42, 43

¹⁰ Rigid simulcasting of identical camera shots should not be blindly required. HDTV should not be saddled with the program production techniques that are used for NTSC programming if different production techniques can take advantage of the unique capabilities of HDTV. These capabilities, including clarity, brightness, resolution, and wide aspect ratio, are likely to expand as more and more people experiment with HDTV. A rigid simulcasting requirement could thus be a barrier to the full exploitation of HDTV.

accomplished. Side by side comparison, available only through simulcasting, supports this goal.

The lack of a simulcasting requirement could create significant and difficult problems in the management of the spectrum transition. Popular NTSC programming that is unavailable on the ATV channel can slow the transition and delay the recovery of spectrum by creating a substantial incentive for consumers to invest in NTSC receivers and a disincentive for consumers to purchase HDTV receivers.

Without simulcast requirements, slow adoption of HDTV technology could make recovery of the NTSC spectrum difficult. At the time of recapture, to the extent that there is programming on the NTSC spectrum which is separate and distinct from that on the digital spectrum, there will be an outcry. A simulcasting requirement is a tool which will assist the Commission in recapturing the NTSC spectrum and recapturing it at the earliest feasible time.

If a broadcaster is authorized to and decides to offer multiprogram digital SDTV service, then we believe that during that time one of the SDTV programs should be a digital simulcast of the NTSC broadcast and should replicate it as fully as practical, although a higher quality digital audio track might accompany the SDTV program.

Licensing

We generally believe that a single radio station license should cover both the NTSC and ATV transmitters.¹¹ Separate licenses would serve no administrative purpose¹² and

¹¹ NPRM, para. 46, 47

could be misleading. Both the NTSC and ATV channels should remain under the same ownership during the transition period.

Transition Period

In deciding when to recover the NTSC channels,¹³ the primary decisional factor should be the number of households with the ability to receive digital broadcasts, not the number of analog TV sets that remain in working order. The appropriate public interest question is whether a family is deprived of access to local television broadcasts.

Cable subscribers should count as households that are able to receive digital broadcasts, provided the cable system supplies digital-to-analog converters. We believe that the cable industry will play a critical role in speeding the recovery of NTSC channels by providing subscribers with digital conversion equipment that allows continued use of analog NTSC receivers.

We generally believe that the Commission may recover NTSC channels when 80% of television households (*i.e.*, households that can receive one or more over the air television stations) no longer rely solely on analog NTSC broadcasting. To qualify as part of the 80%, a household must have at least one digital TV receiver, or subscribe to cable service and have a digital-to-analog cable converter, or have a broadcast digital-to-analog converter.¹⁴ Because digital-to-analog conversion equipment will be available for rental from cable systems and for purchase in the marketplace, there will be inexpensive

¹² We presume there is no ITU regulation or other treaty obligation that prevents the licensing of two different transmitters with different technical characteristics at different locations under a single call sign.

¹³ NPRM, para. 53-54

¹⁴ See "Hitachi unveils SDTV decoder," *Broadcasting & Cable*, Sept. 11, 1995, p. 51.

means for displaying digitally-broadcast video on analog TVs, and the number of analog NTSC receivers in U.S. homes should not be an insuperable barrier to an early transition and return of the NTSC channels.

The 80% target figure should be considered in light of the fact that, today, 65% of households already receive local broadcast signals via cable television systems. The availability of this transmission medium (and other alternatives for transmission of local broadcast signals) can make a significant contribution toward solving the problem of disenfranchising consumers as a result of the return of NTSC spectrum.

Cable and alternative transmission media, through providing digital conversion equipment, make it possible for consumers to continue the use of analog television sets even after analog NTSC broadcasts have been discontinued. Every consumer with a cable converter will be a served customer, thus easing the path for recovery of the NTSC spectrum.

In light of this, the Commission should adopt policies which incent the deployment of such equipment. The Commission should take into account the valuable role of cable systems and cable converters for NTSC broadcast spectrum recovery as it considers the equipment compatibility requirements of the 1992 Cable Act. Any regulatory requirements that discourage the use of conversion equipment will impede the recovery of the NTSC channels.

Recovery of NTSC Spectrum

While the ATV channel assignment plan is not at issue in this proceeding, we believe that the Commission should take into account the value of the recovered NTSC spectrum¹⁵ in its channel assignment planning.

The recovered spectrum will have its highest value if it is contiguous and the contiguous band is common across the entire country. Auctioning channels which are not contiguous and which vary from one city to the next would achieve far less in auction revenues than auctioning spectrum which has been cleared nationwide. For this reason, auctioning should be delayed until the end of the transition period, and should be limited to the spectrum recovered after transition.

In order to achieve the highest auction value for the contiguous recovered spectrum, the Commission may decide it is necessary for some TV stations to move their ATV operations to a different channel at the end of the transition period. For instance, some or all of the VHF spectrum and some spectrum at the high end of the UHF band might be recovered in this way. If this is found to be necessary, the cost of this move should be paid out of revenues derived from auctioning the contiguous recovered spectrum.¹⁶ By "repacking" the spectrum at the end of the transition period, we believe the auctioned spectrum will have a far greater auction value, which justifies earmarking some small part of those revenues for this reassignment.

Analysis of these issues by the Commission at this juncture will, we believe, provide it with the data upon which it can base the most spectrum efficient policies and

¹⁵ NPRM, para. 58-60

¹⁶ The Commission should consider permitting broadcasters to carry the same channel number before and after the transition.

will give it guidance in recovering the NTSC spectrum.¹⁷ We propose that, before the Commission assigns any channels, it undertake a limited pre-analysis of the spectrum, which we believe it can do based on data available at the Commission. This will enable an efficient plan which maximizes contiguous blocks of spectrum while minimizing repacking moves.

Construction Period

We support a six-month period during which broadcasters can elect to request an ATV channel.¹⁸ This will serve the public interest by clarifying the demands that will be placed on those supplying HDTV studio and transmitter equipment, and new tower construction.

A six year construction period is not appropriate in all cases. For major markets, a three year construction period is generally appropriate. For smaller markets, a longer period, up to six years, might be more suitable.¹⁹ Not only would such a system provide flexibility where it is most needed, it could ease the process by which essential equipment is procured. The Commission could then monitor the start-up and grant additional time, in light of availability of essential equipment and other appropriate considerations.

¹⁷ This discussion, as with the discussion in *Ashbacker*, simulcasting, and elsewhere, is based on the current status of the law. We recognize that the Congress is considering changes in the law, including auctioning the spectrum currently planned for ATV. That spectrum remains burdened by the requirements placed on it by the interference characteristics of analog NTSC signals. Auctioning it under these circumstances may not make the most sense. Auctioning the spectrum before the transition would forfeit the dramatic increase in value that can be achieved by a transition program which "improves" the "property." An intelligently managed transition to digital broadcasting can serve just this purpose.

¹⁸ NPRM, para 64

¹⁹ NPRM, para. 67

Here, as elsewhere in the development of Commission policies, it cannot be overemphasized that clarity and consistency incents the development of hardware. Inconsistency about digital policies over the last few years has had a negative effect on hardware development, as developers have waited until rules become more certain. The Commission's exercise of its leadership function in this regard can help the transition go smoothly and help speed the return of the spectrum.

The Commission should consider whether to create special incentives that promote the early construction of ATV stations, which could lead to earlier recovery of the NTSC channels.

Noncommercial Stations

PBS member stations and other noncommercial stations are recognized as technology leaders in TV broadcasting. Likewise, their viewers are often "early adopters" of new video technology. Early conversion to ATV by these stations would serve the public interest by causing commercial stations to convert earlier than might otherwise occur. Consequently, we support U.S. Government action that would mitigate financial problems faced by noncommercial stations in converting to ATV technology, and would lead to conversion as early as possible.

All-Channel Receiver

The Commission has raised numerous detailed questions about whether and to what extent the All Channel Receiver Act should be extended to apply to ATV.²⁰ The All Channel Receiver Act was enacted to correct a specific problem--TV receivers were being manufactured and sold without UHF tuners, and UHF stations were deprived of viewers.

²⁰ NPRM, para. 78

We see little or no likelihood that comparable problems will emerge in the new digital TV marketplace. The Commission should wait until specific problems emerge before choosing to regulate in this area.

The All Channel Receiver Act is premised upon a particular model of a TV receiver, as a complete product designed for a single transmission medium. But the digital video marketplace of the future will be served by a variety of transmission media, and the public need may be best served by the modular design of video receivers, with a display that works for all transmission media but separate modules that tune broadcast TV, cable, MMDS or satellite frequencies. Not all consumers will want all modules. Some may choose not to purchase the broadcast TV tuner module. The All Channel Receiver Act does not envision such options. Consumer choice serves the public interest; premature government regulation of TV receivers that eliminates this option could disserve the public interest.

The private sector is proceeding toward development of standards for cable television systems, and is addressing other issues of interoperability and compatibility of equipment. The Commission should refrain from regulatory intervention in market and private sector activity.

Must Carry

The transition from analog to digital television, and the possibility that a broadcaster will transmit multiple SDTV programs within a 6 MHz broadcast channel, raises complex and difficult must-carry problems.²¹

²¹ We believe that the current must-carry regulatory structure may impose unconstitutional burdens on cable operators, but we respond to these issues nonetheless.

An oversimplified approach would be to require a cable operator to simply pass through the same digital signal that is broadcast, without changing the modulation, data rate or content. But such an approach must be rejected. It would be wasteful of cable system capacity, since the cable system's 6 MHz channel will be able to carry a higher data rate, using a more complex modulation method, than the broadcaster's 6 MHz channel. Moreover, there is long-standing policy and recent statutory authority that permits cable operators to strip out nonprogram-related ancillary data on the broadcast signal and substitute their own data. Requiring pass-through of the full digital broadcast signal would be inconsistent with this policy and authority.²² Finally, some cable systems may have problems due to limited channel capacity.

We expect that a cable operator will not simply pass-through the broadcast ATV signal, but will receive the signal, demodulate it and perform error correction. At this point, the ATV signal would be demultiplexed into its component program streams, if it contains multiple SDTV programs. Some or all of these would be recombined with other program streams into a higher data rate signal; a higher data rate is feasible on a cable channel because it is a friendlier propagation environment than over-the-air broadcasting. Two broadcast HDTV programs might be multiplexed together into a single 6 MHz cable channel, or an HDTV program and several SDTV programs might be multiplexed together. Then, new error correction coding would be applied, and a new, more complex modulation method (most likely 64 QAM initially, migrating to ever higher capacity modes).

²² Section 614(b)(3)(A) of the 1992 Cable Act provides that retransmission of nonprogram-related material is at the discretion of the cable operator. Report and Order in MM Docket No. 92-259 (Broadcast Signal Carriage Issues), 8 FCC Rcd at 2985, para. 75, 81, citing *WGN Continental Broadcasting v. United Video*, 685 F. 2d 218 (7th Cir., 1982).

If must-carry is applied to the digital signal, an issue is raised if and when the broadcast signal carries multiple SDTV program streams. For this case, we believe that during the transition period, the cable operator could, at most, be required under the must-carry statute to carry only the program that is broadcast on the NTSC channel which is also simulcast on one of the SDTV program streams. The cable operator should have the choice whether to use the NTSC signal as the program source or the digital SDTV signal. If, during the transition period, none of the programs within the SDTV multiplex is a simulcast of the NTSC program,²³ then we do not believe that the cable operator should be required under must-carry rules to carry any of the SDTV programs.

After the transition, the broadcaster should designate which one of the multiple SDTV program streams should qualify for must-carry. Only one should qualify for mandatory carriage. It may be that the ATSC/ATV standard will have to be modified to include the technique by which information is provided to indicate which SDTV program is designated for must-carry.

Under no circumstances should subscription programs (such as pay TV movies) that are carried within the ATV multiplex be accorded must-carry privileges.

²³ Which would not be the case if our proposals for simulcast (*supra*, p. 11) are adopted.

Summary and Conclusion

The Commission, through its Advisory Committee, has managed an eight year process which is a valuable example of private sector contribution undertaken with public sector encouragement and support. The process has been difficult and laborious, but the result, world-leading technology, justifies the effort.

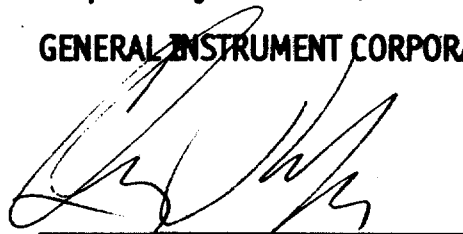
There is no system competitive to the Grand Alliance system, anywhere in the world. As television around the globe migrates to digital, the U.S. offers the only complete solution, HDTV as well as lesser capabilities. If the Commission can act rapidly to approve the standard, and encourage its timely deployment, then the U.S. technology lead can be commercialized, to the advantage of U.S. companies in world markets.

There is a clear need for the Commission to act with dispatch. A sense of urgency is not now evident. For example, even though elements of the Advisory Committee recommendation are already well known, the Commission is not scheduled to issue its technical standard NPRM for almost two months after the November 28 Advisory

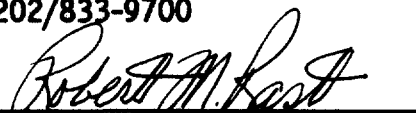
Committee meeting. All delay is bad, but unnecessary delay is particularly regrettable and harmful.

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